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# Fax Cover Sheet

**Date:** 08 Nov 2005

<b>To:</b> Mary E. Goulet (Reg. No. 35,884)	<b>From:</b> Michael J. Feely
<b>Application/Control Number:</b> 10/780,909	<b>Art Unit:</b> 1712
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<b>Re:</b> Proposed Examiner's Amendment	<b>CC:</b>

☐ **Urgent**    ☒ **For Review**    ☐ **For Comment**    ☐ **For Reply**    ☐ **Per Your Request**

Comments:  
Ms. Goulet,

Attached is a proposed examiner's amendment to put this case in condition for allowance. Please review the proposal and give me a phone call to discuss whether or not these changes are acceptable.

Thank you,

Michael J. Feely

**MICHAEL FEELY**  
**PRIMARY EXAMINER**

**Number of pages 8 including this page**

## STATEMENT OF CONFIDENTIALITY

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The following is a listing of proposed changes for Serial No. **10/780,909**.

The claims are first grouped by dependent claim. They are marked accordingly where proposed changes are to be made. They are also accompanied with comments discussing the reason and basis for the proposed changes.

Also included is a sequenced list of unmarked claims featuring the proposed changes.

7. (Currently Amended) A method of producing a nonisocyanate polyurethane network comprising:

(a) reacting an epoxidized soybean oil (ESBO) with carbon dioxide to obtain wherein a carbonated soybean oil is produced; and

(b) reacting the carbonated soybean oil with a polyamine having an amine functionality of two or higher to obtain a nonisocyanate polyurethane network.

4. (Currently Amended) The method of claim 7, ~~including~~ wherein a catalyst is present for the reaction step (a).

5. (Original) The method of claim 4, wherein the catalyst is tetrabutylammonium bromide (TBAB).

6. (Currently Amended) The method of claim 7, wherein the epoxidized soybean oil is converted to carbonated soybean oil without any significant side reactions occurring.

Comments:

- The current version of the claims is missing an essential step. In order to form a nonisocyanate polyurethane network, the carbonated soybean oil must be reacted with a polyamine (having an amine functionality of two or greater). Evidence of this is on page 7 (lines 20-22), page 9 (lines 15-19), page 11 (lines 14-16), and page 14 (lines 22-25).

20. (Currently Amended) A method of making a nonisocyanate polyurethane network, comprising: mixing and reacting:

(1) a carbonated vegetable oil; and

(2) ~~an amine~~ a polyamine having an amine functionality of at least two;

wherein a nonisocyanate polyurethane network is formed.

21. (Currently Amended) The method of claim 20, wherein the carbonated vegetable oil and polyamine are mixed stoichiometrically at or within nearly balanced stoichiometry.

22. (Original) The method of claim 20, wherein the carbonated vegetable oil is carbonated soybean oil.

23. (Currently Amended) The method of claim 20, wherein the polyamine is selected from the group consisting of ethylenediamine (ED), hexamethylenediamine (HMD), and tris(2-aminoethyl) amine (TA).

24. (Original) The method of claim 20, wherein a viscous solution is produced from the mixing, and the viscous solution is transferred into a mold, followed by curing.

26. (Currently Amended) The method of claim ~~4~~ 20, wherein the epoxidized vegetable oil is carbonated at atmospheric pressure.

Comments:

- The current version of the claims is missing an essential element. In order to form a nonisocyanate polyurethane network, the carbonated vegetable oil must be reacted with a polyamine (having an amine functionality of two or greater). Evidence of this is on page 7 (lines 20-22), page 9 (lines 15-19), page 11 (lines 14-16), and page 14 (lines 22-25).

25. (Currently Amended) A polyurethane network comprising: a nonisocyanate polyurethane network produced from a carbonated vegetable oil and a polyamine having an amine functionality of two or higher.

Comments:

- The current version of the claims is missing an essential element. In order to form a nonisocyanate polyurethane network, the carbonated vegetable oil must be reacted with a polyamine (having an amine functionality of two or greater). Evidence of this is on page 7 (lines 20-22), page 9 (lines 15-19), page 11 (lines 14-16), and page 14 (lines 22-25).

27. (Currently Amended) A method of producing a foam ~~or~~ of a non-isocyanate polyurethane network, comprising:

(a) reacting an epoxidized vegetable oil with carbon dioxide to form a carbonated vegetable oil;

(b) reacting the carbonated vegetable oil with a polyamine having an amine functionality of two or higher to obtain a non-isocyanate polyurethane network; and

(c) processing the carbonated vegetable oil non-isocyanate polyurethane network into at foam ~~or an non-isocyanate polyurethane network~~.

28. (Currently Amended) The method of claim 27, wherein the carbonated product is processed into foam is a rigid foam.

29. (Currently Amended) The method of claim 27, wherein the carbonated product is processed into foam is a flexible foam.

30. (Cancelled).

#### Comments:

- The current version of the claims is missing an essential step. In order to form a nonisocyanate polyurethane network, the carbonated vegetable oil must be reacted with a polyamine (having an amine functionality of two or greater). Evidence of this is on page 7 (lines 20-22), page 9 (lines 15-19), page 11 (lines 14-16), and page 14 (lines 22-25).
- Furthermore, foamed products are derived from the non-isocyanate networks – not the carbon vegetable oil. Evidence of this is on page 8 (lines 3-8).
- Claim 30 would be cancelled because it would fail to further limit the modified version of claim 27.

1-3. (Cancelled)

4. (Currently Amended) The method of claim 7, wherein a catalyst is present for the reaction step (a).

5. (Original) The method of claim 4, wherein the catalyst is tetrabutylammonium bromide (TBAB).

6. (Currently Amended) The method of claim 7, wherein the epoxidized soybean oil is converted to carbonated soybean oil without any significant side reactions occurring.

7. (Currently Amended) A method of producing a nonisocyanate polyurethane network comprising:

(a) reacting an epoxidized soybean oil (ESBO) with carbon dioxide to obtain a carbonated soybean oil; and

(b) reacting the carbonated soybean oil with a polyamine having an amine functionality of two or higher to obtain a nonisocyanate polyurethane network.

8-19. (Cancelled)

20. (Currently Amended) A method of making a nonisocyanate polyurethane network, comprising mixing and reacting:

(1) a carbonated vegetable oil; and

(2) a polyamine having an amine functionality of at least two;

wherein a nonisocyanate polyurethane network is formed.

21. (Currently Amended) The method of claim 20, wherein the carbonated vegetable oil and polyamine are mixed stoichiometrically at or within nearly balanced stoichiometry.

22. (Original) The method of claim 20, wherein the carbonated vegetable oil is carbonated soybean oil.

23. (Currently Amended) The method of claim 20, wherein the polyamine is selected from the group consisting of ethylenediamine (ED), hexamethylenediamine (HMD), and tris(2-aminoethyl) amine (TA).

24. (Original) The method of claim 20, wherein a viscous solution is produced from the mixing, and the viscous solution is transferred into a mold, followed by curing.

25. (Currently Amended) A polyurethane network comprising: a nonisocyanate polyurethane network produced from a carbonated vegetable oil and a polyamine having an amine functionality of two or higher.

26. (Currently Amended) The method of claim 20, wherein the epoxidized vegetable oil is carbonated at atmospheric pressure.

27. (Currently Amended) A method of producing a foam of a non-isocyanate polyurethane network, comprising:

(a) reacting an epoxidized vegetable oil with carbon dioxide to form a carbonated vegetable oil;

(b) reacting the carbonated vegetable oil with a polyamine having an amine functionality of two or higher to obtain a non-isocyanate polyurethane network; and

(c) processing the non-isocyanate polyurethane network into at foam.

28. (Currently Amended) The method of claim 27, wherein the foam is a rigid foam.

29. (Currently Amended) The method of claim 27, wherein the foam is a flexible foam.

30. (Cancelled)